ning of October in the same year, near the city of Londonderry, came under my inspection. In March 1839 a second example was obtained at Kilbarry, county of Waterford, as I learn from Dr. Burkitt, who likewise adds, that the hoopoe has been met with at Tramore and Woodstown, in the same county, on three or four occasions. In a letter from Mr. R. Ball of Dublin, dated October 30, 1840, it was stated that a hoopoe had been shot at Cork a few days before. Mr. T. W. Warren of Dublin informs me that late in the autumn of 1841 two specimens of this bird, killed in the counties of Westmeath and Wexford, were sent to the metropolis to be preserved; and I received intelligence of another being obtained on the 17th Oct., 1841, at Saunder's Court, near the city of Wexford, about which place this species has been met with several times*.

From the preceding notes it appears that the hoopoe has visited Ireland for the last five years—from 1837 to 1841 inclusive;—in 1836 there is no record; but this may have arisen from mere omission: in 1833, 1834 and 1835 it was obtained. All these birds, except some two or three said to have been met with in winter, were evidently on migration, a few of them in spring, and by far the greater number in autumn—in September and October. I am not aware of the species having been noticed here during summer, though it may be expected rarely to occur at this season: it generally appears singly. It seems strange that individuals should frequently wander so far west of the direct line of their migration as this island, either when moving towards the north of Europe for the summer, or towards Africa for the winter.

On the 24th and 25th of April last (as particularly noticed in 'Annals,' vol. viii. pp. 126 and 127) two or three of these birds alighted on H.M.S. Beacon, when on the passage from Malta to the Morea. When travelling from Aix-la-Chapelle to Liège, on the 17th of July, I was gratified with the sight of a hoopoe, which alighted on the road before the carriage.

[Some instances of the occurrence of the hoopoe are recorded in our pages, vol. vi. and viii: see also p. 148.—Ed.]

[To be continued.]

PROCEEDINGS OF LEARNED SOCIETIES.

ZOOLOGICAL SOCIETY.

September 14, 1841.—Prof. Owen, Vice-President, in the Chair.

A letter was read from William Ogilby, Esq., H.B.M. Consulate, Charleston, announcing a present from that gentleman of seven living Water-Tortoises for the Society's Menagerie.

A letter from R. Hill, Esq. was next read. In this letter, which is dated Spanish Town, Jamaica, July 28, 1841, Mr. Hill relates some interesting facts respecting the nests of the birds of Jamaica.

* Since the above was sent to the Annals, Mr. R. Davis, jun., of Clonmel has communicated two other instances of the occurrence of the hoopoe—one shot on the grounds of Mr. Parker, near Cork; the other, obtained within the last few months, near Waterford.

"Naturalists have remarked," observes Mr. Hill, "that in tropical countries there are a greater number of birds that build close nests than in the temperate climate of Europe. In the West Indian islands, with the exception of the Pigeon tribes and the Humming-birds, the nests are almost uniformly circular coverings of dried grass, varied by intermingled cotton, moss, and feathers, with an opening from below, or an entrance at the side. The Banana-bird weaves a hammock of fibres, sometimes of horse-hair, deep and purse-like, and loosely netted; the *Muscicapa olivacea* a hanging cot of withered leaves, straw, moss, fibrous threads, and spiders' webs, fitted together, and the Mocking-bird builds in the midst of a mass of wicker-work a neat nest of straw, lined with hair. The Woodpecker and the Parrots take to hollow trees, but I hardly know an arboreal bird beside that constructs any nest that is not wholly covered or domed over. Very many insects that are exposed to the air during their metamorphoses weave coverings of silk and cotton, in which they lie shrouded, at once impenetrable to moisture, and uninfluenced by the disturbances of the atmosphere. It would seem that the object, whatever it be, is the same in both. It is not for warmth that the insects spin these webs, for they form their coverings of silk and cotton in the hottest period of the year; and I find, that whilst all our birds that build open nests breed early, those that construct the domed and spherical ones, nestle in the season between the spring and autumnal rains, when the air is saturated with electricity, and is in a state of constant change.

"The destructive influence exercised by the active electricity of the atmosphere on the eggs of birds, accords with that organic gradation by which the higher embryonic animals commence vegetative life with an organization similar to that of the lower. The successive stages of development presented by the egg during incubation exhibit the heart and great vessels constructed like those of the Batrachian reptile, with reference to a bronchial circulation. In the descending scale of organization, in animals, where the respiration is low and the irritability high, the electric stimulus is rapidly fatal. Fish and Crustacea perish in numbers under the influence of a thunder-storm (Art. Irritability, Cyclop. Anat. and Phys.), and the half-matured embryo in the egg is destroyed by the disturbances which prevail during the activity of the summer lightning.

"Electricity being entirely confined to the surface of bodies, and the quantities they are capable of receiving not following the proportion of their bulk, but depending principally upon the extent of surface over which it is spread, the exterior of bodies may be positively or negatively electric, while the interior is in a state of perfect neutrality. Under isolation the quiescent state of the electricity occasions no sensible change in their properties. The power of retaining the electric fluid depending upon the shape, and the sphere and the spheroid retaining it readily, while it escapes from a point, or is received by a point with facility, the enveloping the eggs of birds in dried and non-conducting materials spread entirely and widely round is a means of steadily maintaining a uniform distribution of the electricity, and with it of preserving that state of qui-

escence by which no sensible changes are communicated to the embryo within. Thus at a time when the air is excessively disturbed by explosions of lightning and by the shocks of thunder-storms, the business of incubation is carried on in a space completely isolated, and the egg suffers no change of property by the varied electric action that is prevailing in the free atmosphere around."

Some notes on the Wild Antelope of Khaurism (*Antilope Saiga*, Pall.), by Capt. James Abbott, communicated by K. E. Abbott, Esq., Corr. Memb., were read. The author, after giving a description of the animal, adds, "It lives in large flocks in the steppe between the river Oxus and the Caspian. When pursued it bounds like the Antelope, but being much smaller and less vigorous, is run down by the coarse Persian Greyhound of the Turcoman and Kuzzauk. The Turkish name is Kaigh and Soghoke."

Mr. Gould exhibited a specimen of the *Apteryx australis*, in which the beak was shorter, and also more dilated at the base, than in other specimens which he had examined.

Mr. Yarrell read his description of the trachea of a male Spur-winged Goose, *Anser gambensis* and *Chenalopex gambensis* of authors.

"A male specimen of this native of Northern and Western Africa died lately in the gardens of the Zoological Society, after living in confinement in the aviary nearly twelve years. Advantage was taken of this opportunity to examine the organ of voice, which is generally found to possess some remarkable variety in form throughout the species of the extensive family of *Anatidæ*, and this expectation was realized. The windpipe of the Spur-winged Goose, which is, I believe, undescribed, measures about sixteen inches in length; the tube flattened throughout, except at the bottom, where it is nearly cylindrical. The bone at the bottom of the trachea, from which the bronchial tubes have their origin, is again flattened, and has on the left side a bony protuberance, forming a hollow labyrinth, about five-eighths of an inch wide, seven-eighths of an inch high, and three-eighths of an inch thick from front to back. This bony enlargement is perforated with various apertures on each surface, which in a natural state are covered by a delicate semi-transparent membrane."

Mr. Waterhouse called the attention of the Members to some imperfect skins of various species of Monkeys from Fernando Po, presented to the Society by George Knapp, Esq. The Curator observed, that he had selected these specimens from a large number of skins, sent from the locality mentioned, and that on a former occasion he had had an opportunity of examining a similar series, from which the specimens were selected which were described in the Proceedings for May 1838, p. 57, under the names *Colobus Pennantii*, *Colobus Satanas*, *Cercopithecus Martini*, and *Cercopithecus erythrotis*. In the present collection is a skin of the *Cercopithecus erythrotis*, in which the face is nearly perfect, and exhibits a transverse red mark, crossing the nose; this mark is not due to the colour of the skin, but to short, bright, rust-coloured hairs. The upper lip is covered with blackish hairs, and a band composed of long blackish hairs runs backwards,

from the upper lip, across the cheeks, which in other parts are covered with whitish hairs. The length of the skin is two feet, and the tail measures two feet five inches.

Of the *Colobus Pennantii* there were many specimens in the collection, all of which presented the characters pointed out in the description in the Proceedings.

The skin of the *Cercopithecus Martini*, on the table, Mr. Waterhouse observed, also agreed essentially with specimens formerly exhibited, excepting in being of a larger size, the head and body measuring nearly twenty-six inches, and the tail thirty-one inches in length. The tail is of an uniform black colour, excepting near and at the base, where the hairs are obscurely annulated with gray: the hairs on the under parts of the body are of a grayish soot-colour, obscurely annulated with whitish, and the upper surface of the head, as well as the occipital portion, the shoulders, and fore-limbs, are black: on the fore-part of the head the hairs are distinctly annulated with yellowish white.—[*See Annals*, vol. ii. p. 468.]

Sept. 28.—William Yarrell, Esq., Vice-President, in the Chair.

A letter from W. V. Guise, Esq., stated that a young Hoopoe (*Upupa Epops*, Auct.) was killed on the eighth of September, at Frampton-on-Severn.

Mr. Lovell Reeve then submitted to the Meeting a *Tabula Methodica* of the plan he intended to adopt in his forthcoming Conchologia Systematica, for the arrangement of the Lepades and Conchiferous Mollusca. He stated, that in reviewing the history of Conchology, which may be dated from the time of Adanson and Linnæus, it was evident that few of these remarkable animals were then known; and although the classification proposed by the latter has been abandoned, from the fact of its having been based almost entirely upon the outward characters of the shells alone, without reference to the anatomy or habits of their animal inhabitants; it may be remembered as a most laudable attempt on the part of that great father of natural history, to introduce into his theory of nature a scientific arrangement of certain shells then before him, which he knew to be the production of certain once living animals. This fallacious method, therefore, was his alternative; he must have been well aware that he could no more arrive at the true history of the Mollusca by their shells alone, than at the natural history of Birds by their feathers alone; but, in the absence of the soft and living parts, he succeeded in establishing an arrangement, by noting such marks and symbols on the shell as could be supposed by analogy to indicate corresponding characters and developments in the organization of its animal. Since the time of Linnæus our intercourse with foreign lands and the general progress of civilization have given increased facilities of obtaining the animals in their native condition; thus, their anatomy and habits have become the popular subject of investigation, raising the study of Conchology to a level with the rest of the natural sciences. From the commencement of the present century various naturalists have assisted in reorganizing the arrangement and division of the Lepades and Mollusca; Bruguière, Lamarck,

Cuvier, De Blainville, Deshayes and Gray have successively devoted themselves to the subject. In illustration of the progress of Conchology, Mr. Reeve exhibited to the Society a series of written tables, showing the systems of classification and nomenclature pursued by these several authors. He observed, that the simple method of Lamarck was that usually adopted, but the last that had been introduced was that of Mr. Gray published in the British Museum Synopsis. The chief object of this author appeared to be to extend the application of the nomenclature, in which he enumerates more than three times the number of genera mentioned by Lamarck. He could not fail to appreciate many useful alterations in Mr. Gray's system of classification, and thought it was entitled to considerable merit on account of the attention with which he had studied the animals; he could not however but express his fears that many of Mr. Gray's changes were founded too much upon conjecture; it was also much to be regretted that the whole matter had not been presented to the notice of scientific men in a fair and satisfactory form.

After a careful examination of these authors, and with the view of embodying much new and important matter from various scattered memoirs and monographs, Mr. Reeve adopts the proposed system of arrangement, considering it only a matter of surprise, that whilst many eminent conchologists are indefatigable in describing new species, a revision in the general distribution of these animals has been so long neglected. The Lepades and Mollusca are to be considered as separate and distinct sub-kingdoms. The Lepades are divided into two orders, according to the established method, the sessile and pedunculated; and the Mollusca into five classes, upon the modifications of the organ of locomotion. The first class is divided, in imitation of Lamarck, according to the number and position of the adductor muscles, as indicated by the cicatrices or points of attachment on the internal surface of the shell. The second class includes but few species, and is distributed at once into families; the animals of this and the former class are all conchiferous, having a bivalve shell; the valves are connected by a ligament in the first class, but not in the second; their general organization too is essentially different. The third class, which comprehends by far the greater part of the Mollusca, is divided into seven orders, according to the varieties of the structure and position of the branchiæ, the system of respiration being the most important feature of distinction in the organization of these animals: this plan of subdividing them was proposed by Cuvier, and has been for the most part followed by subsequent naturalists. The animals of this class are not all conchiferous; some are naked, or entirely destitute of shell, and do not therefore come under the present notice. The fourth class contains but few genera; they include a singular kind of mollusk, having a small glass-like shell, found swimming in myriads on the surface of the ocean by means of a small wing-like natatory fin. The fifth and last class, which contains the Nautili, are divided into two orders, according to the plan of Lamarck. The following Table exhibits the primary distribution of these animals, with their subdivision into families; added to which is the entire classification in detail:—

Tabular Distribution of the Lepades and Conchiferous Mollusca.

Subregna.	*Classes.*	*Orders.*	*Families.*
LEPADES		Sessiles	Balanidæ.
		Pedunculatæ	Anatiferidæ.
MOLLUSCA CONCHIFERA.	Tropiopoda	Bimusculosa	Tubicola, Pholadaria.
			Solenacea, Myaria.
			Mactracea, Lithophaga.
			Nymphacea, Conchacea.
			Cardiacea, Arcacea.
			Trigonacea, Naiades.
			Chamacea.
		Unimusculosa	Tridacnacea, Mytilacea.
			Aviculacea, Pectinacea.
			Ostracea.
	Brachiopoda		Tendinosa, Adhærentia.
	Gasteropoda	Cirrhobranchiata	Dentalia.
		Cyclobranchiata	Phyllidiana.
		Cervicobranchiata	Fissuracea, Capulacea.
			Macrostomata, Tubispiracea.
		Pleurobranchiata	Bullacea, Semiphyllidiana.
			Aplysiana.
		Nucleobranchiata	Carinariana.
		Pulmobranchiata	Limacinea, Colimacea.
			Cyclostomacea, Auriculacea.
			Lymnæana.
		Pectinibranchiata	Melaniana, Peristomata.
			Neritacea, Ianthinea.
			Plicacea, Turbinacea.
			Parasitica, Canalifera.
			Alata, Purpurifera.
			Columellata, Convoluta.
	Pteropoda		Thecosomata.
	Cephalopoda	Polythalamia	Foraminifera, Siphonoidea.
		Monothalamia	Argonautidæ.

Classification in detail.

LEPADES.

Order 1. SESSILES.

Tubicinella.	Conia.
Coronula.	Balanus.
Elmineus.	Clitea.
Catophragmus.	Creusia.
Octomeris.	Pyrgoma.

Order 2. PEDUNCULATÆ.

Lithotrya.	Pollicipes.
Pentelasmis.	Cinaras.
Scalpellum.	Otion.

MOLLUSCA CONCHIFERA.

Class 1. TROPIOPODA.

Order 1. BIMUSCULOSA.

Family 1. *Tubicola.*

Aspergillum.	Clavagella.
Fistulana.	Teredo.
Gastrochæna.	

Family 2. *Pholadaria.*

Xylophaga.	Pholas.

Family 3. *Solenacea.*

Solen.	Solemya.
Solecurtus.	Solenella.
Panopæa.	Glauconome.
Glycimeris.	Pholadomya.

Family 4. *Myaria.*

Mya.	Pandora.
Anatina.	Anatinella.
Thracia.	Myochama.
Corbula.	Cleidothærus.

Family 5. *Mactracea.*

Lutraria.	Gnathodon.
Mactra.	Crassatella.

Mesodesma. Amphidesma.
Ungulina. Cumingia.

Family 6. *Lithophaga.*
Saxicava. Petricola.

Family 7. *Nymphacea.*
Sanguinolaria. Corbis.
Psammobia. Lucina.
Galeomma. Donax.
Tellina. Capsa.

Family 8. *Conchacea.*
Cyclas. Astarte.
Cyrena. Venus.
Galathæa. Cytherea.
Cyprina. Pullastra.

Family 9. *Cardiacea.*
Cardium. Cardita.
Isocardia. Cypricardia.

Family 10. *Arcacea.*
Cucullæa. Pectunculus.
Arca. Nucula.

Family 11. *Trigonacea.*
Trigonia.

Family 12. *Naiades.*
Unio. Iridina.
Hyria. Mycetopus.
Anodon.

Family 13. *Chamacea.*
Etheria. Chama.

Order 2. Unimusculosa.

Family 1. *Tridacnacea.*
Tridacna. Hippopus.

Family 2. *Mytilacea.*
Lithodomus. Mytilus.
Modiola. Pinna.

Family 3. *Aviculacea.*
Crenatula. Vulsella.
Perna. Avicula.
Malleus.

Family 4. *Pectinacea.*
Pedum. Plicatula.
Lima. Spondylus.
Pecten.

Family 5. *Ostracea.*
Ostræa. Placunanomia.
Placuna. Anomia.

Class 2. BRACHIOPODA.

Family 1. *Tendinosa.*
Lingula. Terebratula.

Family 2. *Adhærentia.*
Thecidium. Orbicula.
Crania.

Class 3. GASTEROPODA.

Order 1. Cirrhobranchiata.
Dentalium.

Order 2. Cyclobranchiata.
Chiton. Patella.
Chitonellus.

Order 3. Cervicobranchiata.

Family 1. *Fissuracea.*
Lottia. Emarginula.
Siphonaria. Fissurella.
Parmophorus.

Family 2. *Capulacea.*
Crepidula. Hipponyx.
Calyptræa. Pileopsis.

Family 3. *Macrostomata.*
Velutina. Stomatia.
Sigaretus. Haliotis.

Family 4. *Tubispiracea.*
Siliquaria. Vermetus.

Order 4. Pleurobranchiata.

Family 1. *Bullacea.*
Bulla.

Family 2. *Semiphyllidiana.*
Pleurobranchus. Umbrella.

Family 3. *Aplysiana.*
Aplysia. Dolabella.

Order 5. Nucleobranchiata.
Carinaria.

Order 6. PULMOBRANCHIATA.

Family 1. *Limacinea.*

Parmacella. Testacellus.
Limax. Vitrina.

Family 2. *Colimacea.*

Helix. Bulimus.
Carocolla. Partula.
Anostoma. Achatina.
Pupa. Succinea.
Clausilia.

Family 3. *Cyclostomacea.*

Pupina. Cyclostoma.
Truncatella. Helicina.

Family 4. *Auriculacea.*

Auricula. Chilina.
Scarabus.

Family 5. *Lymnæana.*

Planorbis. Ancylus.
Lymnæa.

Order 7. PECTINIBRANCHIATA.

Family 1. *Melaniana.*

Melania. Melanopsis.

Family 2. *Peristomata.*

Valvata. Ampullaria.
Paludina.

Family 3. *Neritacea.*

Navicella. Neritopsis.
Neritina. Natica.
Nerita.

Family 4. *Ianthinea.*

Ianthina.

Family 5. *Plicacea.*

Tornatella. Pyramidella.

Family 6. *Turbinacea.*

Rissoa. Trochus.
Eulima. Turbo.
Scalaria. Margarita.
Delphinula. Littorina.
Solarium. Phasianella.
Phorus. Turritella.
Rotella.

Family 7. *Parasitica.*

Stylifer.

Family 8. *Canalifera.*

Cerithium. Pleurotoma.
Turbinellus. Pyrula.
Cancellaria. Murex.
Fasciolaria. Ranella.
Fusus. Triton.

Family 9. *Alata.*

Struthiolaria. Pterocera.
Rostellaria. Strombus.

Family 10. *Purpurifera.*

Cassidaria. Trichotropis.
Oniscia. Magilus.
Cassis. Leptoconchus.
Ricinula. Buccinum.
Columbella. Nassa.
Purpura. Planaxis.
Monoceros. Eburna.
Concholepas. Ancillaria.
Harpa. Oliva.
Dolium. Terebra.

Family 11. *Columellata.*

Volvaria. Voluta.
Marginella. Melo.
Mitra. Cymba.

Family 12. *Convoluta.*

Erato. Terebellum.
Cypræa. Conus.
Ovula.

Class 4. PTEROPODA.

Hyalæa. Vaginula.
Cleodora. Cuvieria.
Limacina. Cymbulia.
Creseis.

Class 5. CEPHALOPODA.

Order 1. POLYTHALAMIA.

Family 1. *Foraminifera.*

Orbiculina. Textularia.
Spiroloculina. Nodosaria.
Polystomella.

Family 2. *Siphonoidea.*

Spirula. Nautilus.

Order 2. MONOTHALAMIA.

Argonauta.

Mr. Gould exhibited two skulls of a large species of Kangaroo, from North Australia, which are remarkable for the large size of the nasal cavity, and differ likewise in some other parts of their structure from the more typical species of *Macropus*. Mr. Gould also laid before the Meeting some species of Fishes collected in North Australia.

BOTANICAL SOCIETY OF EDINBURGH.

Feb. 10, 1842.—Professor Graham in the Chair.

The following papers were read:—

1. Notices of several Vegetable Monstrosities, with Specimens. Transmitted by Mr. H. C. Watson and others.—Some of these monstrosities were very interesting, particularly a *Geranium* (*pusillum*?) having the branches terminated by heads or umbels of flowers, through adhesions and excess of parts, the petals being mostly green or obsolete, and the stamens imperfect; *Anthriscus sylvestris*, with the umbels proliferous, which was gathered in the wet autumn of 1839; *Linaria repens*, varieties growing together, and showing a gradual approach to *L. vulgaris*; *Anemone nemorosa*, having the pistils changed to leaves; and *Galium aparine*, presenting a remarkable *lusus naturæ*, probably caused by insects, the quadrangular stem being twisted, so that the stellate leaves have become secund.

2. Mr. Goodsir described the *Sarcinula Ventriculi*, a new vegetable infusorial, allied to the genus *Gonium*, which he had found existing in immense numbers in the fluid ejected for many weeks from the stomach of a patient labouring under a particular form of indigestion. This fluid was ejected in large quantities at a time, and had an appearance similar to that of liquor in a state of fermentation. The plant is microscopic, of a square form, and having the parts arranged in a beautifully symmetrical manner in the square. The number of cells of which the plant consists is 64. It propagates by the division of each of these 64 cells into four new ones, so as to consist of 256 cells; and simultaneously with this increase in the number of parts, divides spontaneously into four young plants.

The author then adverted to the extremely rapid increase of the plant by such a mode of propagation; and after some observations on the nature of the disease in which it occurred, and of which it probably constituted the cause, he concluded with remarks on the genera of plants and animals to which the new plant is allied.

3. On *Primula veris* and allied species, by the Rev. J. E. Leefe.—Mr. Leefe, after remarking that *P. inflata*, Lehm., approaches very near to *P. veris*, says, "in the woods at Audley End, Essex, I find a good deal of what is commonly known as *P. elatior* intermixed, but sparingly, with primroses and cowslips. It agrees with the character of *P. elatior*, Jacq., as defined by Koch, but not with the figure in 'English Botany.' The calyx teeth are more ovate at the base, and the leaves are those of a cowslip; indeed the teeth are almost of precisely the same form as those of the *P. inflata* before alluded to. The limb of the corolla is, however, equal in breadth to more than half of the tube, and is flat, or nearly so."

Professor Henslow writes on this subject:—"With respect to the

identity of the three common *Primulæ*, I consider that no argument can be derived from their keeping distinct, in nature or under culture. It is purely a physiological question, whether *all* of them may not originate from the seeds of any one,—a question which can only be decided by direct experiment. Let a cowslip be highly manured, and its seeds sown in a shady, moist aspect, and I suspect the chances are in favour of some of them coming up as primroses, or, at least, as oxlips. I have had several independent testimonies to the fact of cowslip roots *changing* to primroses; and until proof, by direct experiment, contradict the experiments of Mr. Herbert and myself, I cannot help believing that the three species (as they are thought) and the polyanthus are merely races of one species."

4. On certain Fungi found near Audley End, Essex, &c., by the Rev. J. E. Leefe.

5. Notice of additions to the Flora of Aberdeen, by Mr. George Dickie, Lecturer on Botany, King's College, Aberdeen.—These papers, though important to the Society, do not present so much of interest for the general reader.

6. On the varieties of *Dryas octopetala*, by Mr. C. C. Babington, M.A., F.L.S., F.G.S., &c.—The characters distinguishing these are the proportional length and form of the sepals, the form of the base of the calyx, the form of the leaves, and the pubescence of the petioles. Two of these varieties are apparently confined to Ireland, where Mr. Mackay first noticed the differences existing among plants of this species, and the third is commonly found in alpine situations in England, Scotland, and on the continent of Europe. The latter being the best known form, may be considered as the type of the species, and in it the sepals are acute, and three or four times as long as broad, the base of the calyx being hemispherical; in β. the calyx is very nearly the same, being only less acute; but in γ. the sepals are scarcely twice as long as broad, and very blunt, and the base of the calyx is truncated in a very remarkable manner.

This Society held its fifth meeting for the session on Thursday evening, the 10th March, Professor Christison in the Chair.

The following gentlemen were elected as Non-resident Fellows:—William Borrer, Esq., F.R.S., F.L.S., &c., Sussex; Rev. W. Lewes Pugh Garnons, B.D., F.L.S., Cambridge; Richard Taylor, Esq., Under-Secretary L.S., F.A.S., F.G.S., &c., London; Augustus P. Hamilton, Esq., M.D., Poole, Dorsetshire; and William Mort, Esq., Manchester.

Numerous donations to the Library and Herbarium were reported from different parts of Britain and the continent.

The following papers, &c., were read:—

On four new species of British *Jungermanniæ*, by Dr. Taylor, Dunkerron. Communicated by Mr. Wm. Gourlie, jun., Glasgow. —Mr. Gourlie read the descriptions of the species, and illustrated them by beautifully preserved specimens. Some of these were so minute as to require microscopic aid for their examination, a circumstance which enhances the merit of their discovery by Mr. Wilson and Dr. Taylor, who have laboured with so much zeal and success in the field of Cryptogamic botany.

The following were the species described, viz. *J. Wilsoni*, Taylor, discovered by William Wilson, Esq., at Cromaglown, Killarney, in November 1829, and named in compliment to him by Dr. Taylor.—*J. stellulifera*, Taylor, also discovered by Mr. Wilson, who found it near Crich, in Derbyshire, in September 1833.—*J. voluta*, Taylor, and *J. spicata*, Taylor, both discovered near Killarney, in 1841, by Dr. Taylor.

Mr. Gourlie afterwards exhibited specimens of the following plants:—*Leskea pulvinata*, Wahl., discovered near York by Mr. R. Spruce, and *Gymnostomum Hornschuchianum*, Arnott, discovered at Cromaglown by Dr. Taylor, both new to the British Flora; *Jungermannia Balfouriana*, Tayl. MSS., a new and highly curious species brought from New Zealand by Dr. Stanger, and named by Dr. Taylor in compliment to Professor Balfour of Glasgow, from whose herbarium the specimens were communicated.

Notice of the discovery of *Herniaria glabra* in Berwickshire, by Mr. William Marshall, and of *Linnæa borealis* in the same county, by Dr. Johnston; communicated by Dr. Greville.—The former of these species has generally been regarded as a native of the south of England, but there seems no reason to doubt its being indigenous in the above station. It was observed that Mr. Gorrie had found the plant abundantly in Perthshire, where he had no doubt it must have escaped from gardens, though now quite naturalized, and almost a weed in some places.

The discovery of a new station for the lowly but beautiful plant named in honour of Linnæus is always a matter of interest, and especially in the south of Scotland, where it occurs very rarely.

On four new species of *Desmidium*, by Mr. J. Ralfs.—Mr. Ralfs observes, that "this natural genus is not well defined either in Agardh's 'Conspectus Criticus Diatomacearum,' or in any of our British works." Its best distinctive character seems to consist in the crenated appearance of its filaments, which is least evident in *D. mucosum*. These filaments, which are generally twisted in a regular manner, are of a pale green colour, simple, fragile, short and straight. The species are found during a great part of the year in clear, shallow pools, or in old peat-bogs, the filaments being scattered in loose bundles in the water, or forming a thin gelatinous fleece at the bottom of the pool. The species ascertained by Mr. Ralfs are named by him *D. cylindricum, mucosum, Swartzii*, and *Borreri*.

Illustrative Drawings of Australian Plants, by the Misses M'Leod of Sydney.—These drawings, which are extremely well executed, were transmitted to this country by the ingenious ladies, in order to have the species ascertained which had most struck their fancy in that land of remarkable productions.

Mr. Edmonston read a letter from Mr. P. J. Brown of Thun, respecting the three species of Primrose usually considered to exist in this country. He says, "Against Sir James Smith's opinion (in 'Rees's Cyclop.') that *P. elatior* may be a mule between *veris* and *vulgaris*, I may observe that the three are not often the inhabitants of the same district,—*veris* is almost universally diffused; but where *vulgaris* is very abundant, I have rarely seen *elatior* in any quantity.

and by far the most frequently not at all; while in general, as is the case at Thun, *elatior* grows by thousands in places within many leagues of which *vulgaris* is absolutely unknown. *P. vulgaris* contents itself with an elevation but little above the level of the sea, although in the neighbourhood of the Lake of Geneva it is in perfect condition at from 1200 to 1500 feet; but at Thun, with an elevation of 1900 feet, it languishes, whether planted in a thicket, on a bank, or in a garden; while *elatior*, being more aspiring, prefers an elevation of from 1500 to 2000 feet, and although climbing willingly beyond the latter, descends reluctantly below the former level."

Professor Balfour (of Glasgow) made observations on the distinctions subsisting among the genera of Ferns, *Anemia*, *Mohria*, *Coptophyllum*, *Trochopteris*, and *Schizæa*, some of which had been recently established by Mr. Gardner. These distinctions, which are founded partly on the mode in which the fertile and barren fronds are developed, were illustrated with a series of specimens belonging to the above genera, most of which had been collected by Mr. Gardner in the province of Goyaz, Brazil. The professor next alluded to the various theories which have been advanced to account for the origin of woody fibre, and more especially to that of Du Petit-Thouars. He showed, by sections of palms, that the interlacing of the fibres in endogenous plants was quite in conformity with Du Petit-Thouars' theory, and that the appearance of the woody matter in tree-ferns, and in the natural orders *Piperaceæ*, *Aristolochiaceæ*, and the formation of roots externally in some tree-ferns, in screw-pines, *Vellosias*, &c., all supported the theory of wood being formed by the development of fibres from buds acting as fixed embryos. Dr. Balfour also endeavoured to show that the formation of what have been called by Dutrochet *embryo buds*, may in many cases be accounted for by the development of leaves on them at one period of their growth; and that on examining some others which he exhibited, the woody matter might be traced communicating with the alburnum at one point by rupture of the bark, and insinuating itself between the layers of bark.

MISCELLANEOUS.

Notices relative to Palæontology; by the Rev. Dr. Buckland. *From his Anniversary Address to the Geological Society of London.*

MAMMALIA.—OSSIFEROUS CAVERNS.

Mr. R. A. C. Austen, in a notice on the bone caves of Devonshire, at Torquay and Yealmton, disputes the opinion that the bones in these caves, many of which are evidently gnawed, have been dragged in by the agency of hyænas, founding his objection on the assumption that modern hyænas "do not inhabit caves," and "never drag away their prey, but devour it greedily on the spot." Mr. Austen must have overlooked the evidence of Busbequius, quoted in my 'Reliquiæ Diluvianæ,' p. 22, 1st edit., "Extrahitque cadavera, portatque ad speluncam suam," and cannot have heard of the gnawed bones in the Oxford Museum, extracted by